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Reptile-Associated Salmonellosis — Selected States, 1996–1998

During 1996–1998, CDC received reports from approximately 16 state health departments of *Salmonella* infections in persons who had direct or indirect contact with reptiles (i.e., lizards, snakes, or turtles). *Salmonella* infection can result in invasive illness including sepsis and meningitis, particularly in infants. Despite educational efforts, some reptile owners remain unaware that reptiles place them and their children at risk for salmonellosis. This report summarizes clinical and epidemiologic information in four cases and provides information about state regulations to prevent transmission of *Salmonella* spp. from reptiles to humans.

Case Reports

Arizona. During October 1996, a 3-week-old boy was admitted to a hospital emergency department with fever (103.6 F [40 C]), vomiting, and bloody diarrhea of 15 days' duration. Stool and blood cultures yielded *Salmonella* serotype IV 44:z_4,z_{23}-, an extremely rare serotype. The infant was hospitalized for 10 days and treated with intravenous fluids and amoxicillin. To determine the cause of the infant's illness, a stool specimen was obtained from the family's pet iguana, which also yielded *Salmonella* IV 44:z_4,z_{23}-. In an attempt to prevent reinfection, local health officials informed the parents of the importance of the infant avoiding direct and indirect contact with the reptile, and the iguana was moved to a relative's home. One month later, the infant spent 2 days in the relative's home where the iguana was housed; 48 hours after this visit, the infant was again treated at an emergency department for fever and diarrhea. A stool culture again yielded *Salmonella* IV 44:z_4,z_{23}-.

Kansas. During April 1997, a 6-year-old boy had bloody diarrhea of 10 days' duration, abdominal cramps, vomiting, and fever (104.9 F [41 C]). Stool culture yielded *Salmonella* serotype Typhimurium. The child was treated with ceftriaxone and amoxicillin/clavulanate. Nine days after the boy started therapy, his 3-year-old brother also developed diarrhea, and a stool sample yielded *S.* Typhimurium. No other family members became ill. The two boys shared a room with two corn snakes that they handled regularly. Stool cultures from the corn snakes yielded *S.* Typhimurium. The parents reported to health department staff that they were unaware that snakes are a source of salmonellosis.

Massachusetts. During May 1997, an 8-year-old boy with a congenital immune deficiency developed severe vomiting, abdominal cramps, bloody diarrhea, and head-

Salmonellosis — Continued

aches. Stool samples yielded *Salmonella* serotype St. Paul. The boy was ill for 14 days and received extensive supportive care at home. Three days before the boy became ill, the family had purchased two iguanas from a local pet store. The family was not informed by pet store personnel that reptiles are a source of salmonellosis; the child handled the reptiles, including putting them on his head and face. Before diagnostic testing could be performed, the reptiles were returned to the pet store. The parents informed the pet store owner of the child's illness, and the pet store owner reportedly was unaware that reptiles carry *Salmonella* spp.

Wisconsin. In December 1998, a previously healthy 5-month-old boy suddenly died at home. No significant macroscopic or histologic findings were revealed during autopsy; however, culture of a heart blood sample yielded *Salmonella* serotype Marina. The cause of death was attributed to *S.* Marina septicemia. The family had a pet iguana that had not come into direct contact with the infant. Culture of a stool sample taken from the iguana yielded *S.* Marina. Based on an interview, the parents were unaware that the infant was at risk for salmonellosis from indirect or direct contact with the iguana.

State Regulations for Preventing Reptile-Associated Salmonellosis

During March 1999, CDC contacted all 50 state health departments to determine whether state regulations existed for sale of reptiles and distribution of information about salmonellosis. Of the 48 states that responded, three (California, Connecticut, and Michigan) had regulations requiring pet stores to provide information about salmonellosis to persons purchasing a turtle; two states (Kansas and Maryland) require salmonellosis information to be provided to persons purchasing any reptile. Three states (Arizona, Minnesota, and Wyoming) prohibit reptiles in day care centers and long-term–care facilities.

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Editorial Note: In the United States, pet turtles were an important source of salmonellosis until commercial distribution of pet turtles <4 inches long was banned in 1975 (*1*). This ban led to a 77% reduction in the frequency of turtle-associated *Salmonella* serotypes isolated from humans during 1970–1976 (*1*). The popularity of other reptiles as pets is growing and has raised concerns about their impact on public health. This and other reports (*2*) demonstrate that reptile-related salmonellosis continues to pose a substantial threat to human health. Approximately 93,000 (7%) cases per year of *Salmonella* spp. infections are attributable to pet reptile or amphibian contact (*3*). An estimated 3% of households in the United States have a reptile (CDC, unpublished data, 1999). Many reptiles are colonized with *Salmonella* spp. and intermittently shed the organism in their feces (*4*). Persons become infected by ingesting *Salmonella* after handling a reptile or objects contaminated by a reptile and then failing to wash their hands properly. Either direct or indirect contact with infected reptiles and their environment can cause human illness (*5,6*).

Salmonellosis — Continued

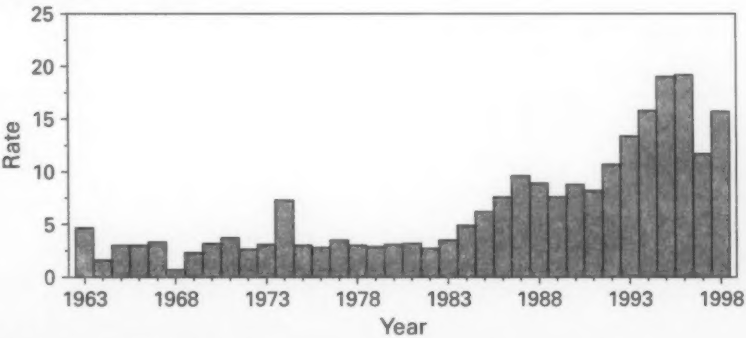
Rare *Salmonella* serotypes, such as Java, Marina, Stanley, Poona, and Chameleon associated with reptiles, increasingly have been isolated from humans (*7*) (Figure 1). For example, *S.* Marina isolates from humans increased from two in 1989 to 47 in 1998, and *S.* Poona increased from 199 in 1989 to 341 in 1998 (*8*). Isolation of rare serotypes of *Salmonella* spp. can alert public health staff about trends in the transmission of infection from reptiles to humans.

Most persons who contract reptile-associated salmonellosis are infants and young children. In 1994, 413 (81%) of 513 *S.* Marina cases occurred in children aged <1 year, whereas 4301 (14%) of 30,723 reported salmonellosis cases occurred in children aged <1 year (*6*). During 1989–1998, 516 (24%) of 2150 *Salmonella* isolates with reptile-associated serotypes were from children aged <4 years, whereas 50,755 (19%) of 267,131 other serotypes were from this age group (CDC, unpublished data, 1999). Because infants and immunocompromised persons are more susceptible to illness, many reptile-associated *Salmonella* infections involve serious complications, including septicemia and meningitis (*9*).

The risks for transmission of *Salmonella* spp. from reptiles to humans can be reduced by thoroughly washing hands with soap and water after handling reptiles or objects that have been in contact with reptiles and by preventing reptile contact with food-preparation areas. Children aged <5 years and immunocompromised persons should avoid direct and indirect contact with reptiles. Reptiles also should not be kept in homes of persons with children aged <1 year and in child care facilities (see box). All pet store personnel and reptile owners should be aware that reptiles can carry and transmit *Salmonella* spp. Pet stores are in a unique position to educate consumers because reptile owners obtain most of their information about their pet from pet store personnel. CDC and the Pet Industry Joint Advisory Council (PIJAC) have developed educational posters and brochures for use by veterinarians and pet stores on safe pet reptile handling.*

*Posters are available on request from PIJAC, telephone (800) 553-7387.

FIGURE 1. Rate* of reptile-associated *Salmonella* serotypes isolated from humans — United States, 1963–1998†



*Per 10,000,000 population.
†Reptile-associated serotypes are isolates from nonhumans reported to CDC and the U.S. Department of Agriculture that are isolated from reptiles ≥50% of the time.

Salmonellosis — Continued

Recommendations for Preventing Transmission of *Salmonella* from Reptiles to Humans

- Pet store owners, veterinarians, and pediatricians should provide information to owners and potential purchasers of reptiles about the risk for acquiring salmonellosis from reptiles.
- Persons should always wash their hands thoroughly with soap and water after handling reptiles or reptile cages.
- Persons at increased risk for infection or serious complications of salmonellosis (e.g., children aged <5 years and immunocompromised persons) should avoid contact with reptiles.
- Pet reptiles should be kept out of households where children aged <1 year and immunocompromised persons live. Families expecting a new child should remove the pet reptile from the home before the infant arrives.
- Pet reptiles should not be kept in child care centers.
- Pet reptiles should not be allowed to roam freely throughout the home or living area.
- Pet reptiles should be kept out of kitchens and other food-preparation areas to prevent contamination. Kitchen sinks should not be used to bathe reptiles or to wash their dishes, cages, or aquariums. If bathtubs are used for these purposes, they should be cleaned thoroughly and disinfected with bleach.

The effectiveness of educating the public about reptile-associated salmonellosis needs to be evaluated. To enhance efforts to educate the public in a systematic, consistent, and timely manner, the National Association of State Public Health Veterinarians and the Council of State and Territorial Epidemiologists jointly recommend "that the appropriate state and local agencies enact legislation prohibiting the sale or gift of reptiles unless there is written point-of-sale education provided to consumers on the risks for and prevention of reptile-associated salmonellosis" (*10*). CDC will provide assistance to states interested in developing point-of-sale educational material; however, if these educational efforts should prove unsuccessful, states may wish to adopt restrictions for the sale of reptiles similar to those for turtles.

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Salmonellosis — Continued

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Assessment of Laboratory Tests for Plasma Homocysteine — Selected Laboratories, July–September 1998

Cardiovascular disease, including coronary heart disease and stroke, is the leading cause of death in the United States. Elevated plasma homocysteine (Hcy), generally defined as fasting plasma Hcy levels >15 µmol/L, is an independent risk factor for vascular diseases (*1,2*). It is unknown whether Hcy is a cause of or a marker for atherosclerosis. A recent statement by the Nutrition Committee of the American Heart Association concluded that until results of clinical trials are available, population-wide Hcy screening is not recommended (*3*). However, Hcy tests are used in the clinical setting and information on interlaboratory variation, on method variation, is limited. To assess the status of interlaboratory and intralaboratory variation for Hcy analysis, CDC conducted a study of selected laboratories during July–September 1998. This report summarizes findings from the study, which indicates a need to improve analytic precision and to decrease analytic differences among laboratories (*4*).

Fourteen laboratories participated in the study, including three manufacturers, two government, eight academic, and one clinical research laboratory. Each of three laboratories used two different methods. Selection of laboratories was based on the type of method used for Hcy testing: high-performance liquid chromatography (HPLC), gas chromatography-mass spectrometry (GC-MS), and immunoassay. Laboratories that used HPLC were further subdivided based on the type of detection each laboratory used (electrochemical or fluorescence) and by each of the types of reducing and labeling reagent each used to convert protein-bound and oxidized Hcy into free Hcy and to attach a fluorescent tag to the free Hcy for detection purposes. Laboratories using immunoassay were subdivided into two groups: those using fluorescence polarization immunoassay (FPIA) and those using enzyme immunoassay (EIA). Laboratories participated in a 2-day analysis of 46 blinded plasma samples, four blinded plasma samples with added Hcy, and three plasma quality-control (QC) pools. Interlaboratory and intralaboratory (i.e., between tests run in a laboratory) variation was expressed as a relative standard deviation*. In the absence of target values for the samples analyzed, the GC-MS method was considered arbitrarily as a reference method. Because it used stable-isotopically labeled Hcy as an internal standard, this method is considered to be the most accurate and precise assay available.

For all tests, the mean interlaboratory variation was 9.2% for plasma samples, 8.8% for plasma samples with added Hcy, and 7.6% for the QC pools (Table 1). The mean interlaboratory variation in each method group ranged from 3% to 13%. The group of laboratories performing the FPIA assay had the lowest interlaboratory variation (4.9% for plasma, 3.2% for plasma with added Hcy, and 3.2% for the QC pools). The mean intralaboratory variation was 5.6% for plasma samples, 4.9% for plasma samples with added Hcy, and 4.2% for the QC pools (Table 1). For most laboratories, the intralaboratory variation was <10% and the analytical recovery of added Hcy was 85%–115%.

*Relative standard deviation=standard deviation/mean x 100.

Plasma Homocysteine — Continued

TABLE 1. Mean interlaboratory and intralaboratory variations of homocysteine (Hcy) plasma samples from 14 laboratories, July–September 1998

	Plasma	Plasma and Hcy	Quality-control pools
Variation	RSD*	RSD	RSD
Interlaboratory	9.2%	8.8%	7.6%
Intralaboratory	5.6%	4.9%	4.2%

*Relative standard deviation.

Two of the HPLC methods (HPLC with electrochemical detection and HPLC with fluorescence detection using sodium borohydride as a reducing agent and monobromobimane as a labeling agent) and the EIA method produced results that were, on average, 7.5%, 8.1%, and 7.4% higher than GC-MS results. One HPLC method (HPLC with fluorescent detection using trialkylphosphine as a reducing agent and ABD-F as a labeling agent) produced results that were on average 16.1% lower than GC-MS results. The FPIA method and the two remaining HPLC methods (HPLC with fluorescence detection using either TCEP or TBP as a reducing agent and SBD-F as a labeling agent) showed no deviation compared with results of the GC-MS method.

Analytical quality specifications analysis was performed to test whether the precision[†] and bias[§] of each method were satisfactory (*5,6*). On the basis of intralaboratory variations, none of the laboratories showed optimum performance for all three types of samples, two laboratories showed desirable performance, and six laboratories exceeded the requirements for minimum performance for at least two types of samples. Three methods performed best regarding analytical precision: GC-MS, FPIA, and HPLC with fluorometric detection using a water-soluble phosphine as reducing agent (TCEP) and SBD-F as fluorescent tag.

With regard to apparent analytical bias, nine laboratories met the requirements for optimum performance with respect to GC-MS, and two laboratories did not meet the requirements for minimum performance. The following three methods performed best regarding apparent analytical bias (versus GC-MS): FPIA, HPLC with fluorometric detection using water-soluble phosphine as reducing agent (TCEP) and SBD-F as fluorescent tag, and HPLC with fluorometric detection using the classical tri-butyl phosphine as reducing agent (TBP) and SBD-F as fluorescent tag.

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Editorial Note: The findings in this report indicate that the fully automated FPIA assay performed best with respect to lowest interlaboratory variation, analytical precision, and apparent analytical bias relative to a GC-MS method. Previous findings have shown a good agreement between the FPIA assay and an HPLC assay with internal standardization for approximately 800 serum and plasma samples (*7*).

Although both the mean interlaboratory variation and the mean intralaboratory variation were <10% in this study overall, this variation might be clinically unacceptable because of a graded increase in risk for vascular diseases with increasing plasma

[†]Analytical precision is <0.25 x within-patient variability for optimum performance, <0.5 x within-patient variability for desirable performance, and <0.75 x within-patient variability for minimum performance.

[§]The bias of a method is <0.125 x combination of within-patient and between-patient variability for optimum performance, <0.25 x combination of within-patient and between-patient variability for desirable performance, and <0.375 x combination of within-patient and between-patient variability for minimum performance.

Plasma Homocysteine — Continued

Hcy, starting at plasma Hcy concentrations well within the normal range of the population. The findings in this report also indicate that laboratories performing the same method sometimes vary more among themselves than laboratories performing different methods. The analysis also suggests that improvements are needed in the analytical precision to assure that laboratories in an area can use the same reference intervals. To aid this improvement, researchers need to evaluate individual laboratory performance through a program that includes standard reference materials and comparisons with other laboratories. Such an improvement is needed because Hcy has developed from an esoteric test to a clinical test.

The major limitations of this study were the small number of laboratories using each method and the arbitrary selection of the GC-MS method as a reference method, which may itself be biased. As a result, conclusions regarding interlaboratory variation within a method group and with respect to method-specific bias should be interpreted with caution. A high-quality reference method for Hcy is needed to better evaluate a laboratory's or a method's quality.

CDC is promoting efforts to develop a high-order reference method for plasma Hcy by tandem mass spectrometry, the state-of-the-art methodology for accuracy and precision. This method will be a standard for the development and characterization of reference materials. Future studies will assess the variability between laboratories before and after the introduction of standard reference materials.

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Surveillance for Acute Pesticide-Related Illness During the Medfly Eradication Program — Florida, 1998

The Mediterranean fruit fly (Medfly) (*Ceratitis capitata*, Wiedemann) is an exotic insect that can damage approximately 250 fruit and vegetable plant species and is a serious threat to domestic agriculture. During the spring and summer of 1998, pesticides were used by federal and state agriculture authorities to eradicate Medfly infestations that had been detected in portions of five Florida counties (Table 1). This report summarizes surveillance data, describes probable and possible cases of illness asso-

Pesticide-Related Illness — Continued

TABLE 1. Number of gallons of malathion applied, number of square miles covered, estimated number of persons exposed, and number of persons adversely affected in the Medfly Eradication Program, by county — Florida, 1998

County	Dates of eradication effort	Total malathion volume, excluding bait (gallons)*	Total treatment area (square miles)	Estimated exposed population	Probable and possible cases of illness
Dade†	April 4–24	1.4	0.08	1,500	0
Lake/Marion§	April 30–July 13	2,125.0	35.20	2,500	11
Manatee	May 14–June 26	1,665.0	50.00	120,000	103
Highlands	July 9–Sept 6	2,494.0	42.50	8,000	9
Total		**6,285.4**	**127.78**	**132,000**	**123**

*In addition, small amounts of diazinon, another organophosphate insecticide, were applied from the ground as a soil drench in Dade (0.04 gallon applied over 0.0001 square mile), Lake (0.3 gallon applied over 0.0007 square mile), and Manatee counties (0.1 gallon applied over 0.0003 square mile).

†No aerial application of malathion/bait; ground application only.

§Aerial applications of malathion/bait in Lake County also included small portions of Marion County.

ciated with the eradication effort, and provides recommendations for future Medfly-eradication programs.

The Medfly Eradication Program began on April 4, 1998, with ground applications of malathion/bait* and diazinon, followed by aerial malathion/bait application that began on April 30. All insecticide applications were completed on September 6. The respective county health departments estimated that 132,000 persons resided in the areas treated with these pesticides.

Surveillance for Illness

Reports of potential adverse health effects attributed to the Medfly Eradication Program pesticide applications were solicited by state health and agriculture authorities and collected through telephone hotlines maintained by the Florida Poison Information Network and county health departments. The public was advised of the pesticide use and the hotline number through public meetings hosted by federal and state agriculture department officials, news articles, and radio and television reports. During April 30–September 30, 1998, 230 reports of illness were received from Florida residents and physicians and were investigated by the Florida Department of Health. Reports were classified according to a standard case classification system.† Of the 230 reports, 34 (15%) cases were classified as probable pesticide-related illness based

*Malathion (Fyfanon® ULV, Cheminova Inc., Wayne, New Jersey) combined with a corn protein bait, Nu-Lure® (Miller Chemical and Fertilizer Co., Hanover, Pennsylvania) was applied at a rate of 2.4 fluid ounces malathion and 9.6 fluid ounces bait per acre per week. The reportedly nontoxic bait comprises hydrolyzed corn gluten meal and inert ingredients including corn syrup. Backpack sprayers or truck-mounted pressure sprayers were used for ground applications; UH-1 "Huey" helicopters and DC-3 aircraft conducted the aerial applications. (Use of trade names and commercial sources is for identification only and does not imply endorsement by CDC or the U.S. Department of Health and Human Services.)

†CDC's National Institute for Occupational Safety and Health classifies a case of acute pesticide-related illness and injury as being definite, probable, possible, or suspicious as determined by the level of certainty of exposure, whether health effects were observed by a health-care provider, and whether sufficient toxicologic information supports a causal relation between the exposure and the reported health effects. When toxicologic evidence for an exposure-health effect relation is not present, the case is classified as unlikely.

Pesticide-Related Illness — Continued

on abnormal medical signs compatible with malathion/bait or diazinon toxicity observed by a licensed health-care professional, and 89 (39%) were classified as possible based on symptoms compatible with malathion/bait or diazinon toxicity reported to health-care providers or a state health authority. Of the remaining 107 (47%), 24 were excluded because of insufficient information, 32 were asymptomatic or had symptoms unrelated to exposure, and 51 were classified as unlikely. No reports were classified as definite cases of pesticide-related illness because this category requires confirmation by laboratory testing of clinical or environmental samples that were not available.

The 123 probable or possible cases represent a crude rate of nine cases per 10,000 residents in the exposed areas. Of the 123, 89 (72%) occurred in females; the median age was 46.5 years (range: 6 months–82 years). Eight reports (7%) involved children aged ≤5 years, and 20 (16%) involved persons aged ≥65 years. Four reports (3%) described persons whose illnesses were considered work-related (i.e., Medfly Eradication Program pesticide applicator, lawn-care worker, health department hotline worker, and hotel worker).

Among the 123 cases, signs and symptoms for 87 (71%) were respiratory (e.g., dyspnea, wheezing, coughing, and upper respiratory tract pain/irritation); 77 (63%) involved the gastrointestinal system (e.g., nausea, vomiting, diarrhea, melena, and abdominal cramping); 74 (60%) involved the neurologic system (e.g., headache, vertigo, ataxia, peripheral paresthesia, disorientation, and confusion); 28 (23%) involved the skin (e.g., erythema [with or without maculopapular rash], pruritis, and burning sensations); and 23 (19%) involved the eyes (e.g., lacrimation, conjunctivitis, blepharitis, and blurred vision)[§].

Case Reports

Case 1. A 49-year-old man experienced dyspnea, upper respiratory irritation, and headache after being exposed to aerial malathion/bait applications while working on the roof of his house. His physician diagnosed severe bronchitis and reported that the illness probably resulted from malathion/bait exposure.

Case 2. A 31-year-old man reported a blistering rash over his arms, legs, and neck following an aerial application of malathion/bait. He was exposed to malathion/bait while conducting his lawn maintenance business. He reported that the rash developed where grass trimmings coated with pesticide stuck to his skin. His physician diagnosed allergic contact dermatitis secondary to malathion/bait exposure.

Case 3. A 35-year-old man reported a pruritic rash on exposed skin surfaces. He had covered his pool in accordance with recommendations and was exposed to malathion/bait while removing the cover, which he had folded and carried under his right arm. He was not wearing a shirt, and the rash developed at those points where the pool cover had contacted his arm and torso. His physician diagnosed allergic dermatitis.

Case 4. A 32-year-old woman with a history of asthma complained of multiple symptoms in reaction to ground applications of malathion/bait and diazinon in her neighborhood. Symptoms included nausea, diarrhea, abdominal cramping, cough, upper respiratory irritation, dyspnea, wheezing, headache, and fatigue. Her physician diagnosed acute aggravation of asthma secondary to pesticide exposure from the Medfly Eradication Program.

[§]Total is 289 cases because some persons experienced signs and symptoms in more than one system.

Pesticide-Related Illness — Continued

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Editorial Note: The Environmental Protection Agency (EPA) classifies malathion as an acute toxicity category III compound[¶], and it is considered safer than many other organophosphates because it is rapidly detoxified by the body. Nevertheless, adverse health effects have been reported by persons exposed to malathion (*1*). Self-reported health effects previously associated with aerial spraying of malathion/bait include respiratory symptoms (particularly among persons with pre-existing respiratory conditions), gastrointestinal symptoms, neurologic symptoms, contact dermatitis, and conjunctivitis (*2–4*). These effects may represent irritant or allergic responses to either component of the malathion/bait formulation (*5,6*). Cholinesterase inhibition (*3*) or anxiety about aerial malathion/bait application (*2,7*) also may be responsible for some symptoms.

The findings in this report suggest that for most persons, aerial application of malathion/bait does not pose an acute risk to health; however, at least 123 probable or possible pesticide-related cases of illness were associated with pesticide exposure. Each case-patient had signs and/or symptoms consistent with pesticide exposure, and illness probably resulted from sensitivity to the irritant/allergic effects of malathion/bait. Although ground application of diazinon, another acute toxicity category III organophosphate, was employed in some locations, this agent was considered less likely to be responsible for the observed health effects because it was used in only three counties, was applied focally (without aerial application), and was used in minimal quantities.

The findings in this report are subject to at least three limitations. First, because this was a passive surveillance effort, persons may have become ill who did not seek medical attention or were not reported to the surveillance system. Second, rates of the health outcomes in the exposed population could not be compared with those for the general population because baseline incidence data for many of the effects attributed to the malathion/bait application are not available. Third, the role of cholinesterase inhibition was not determined because blood cholinesterase levels were not obtained.

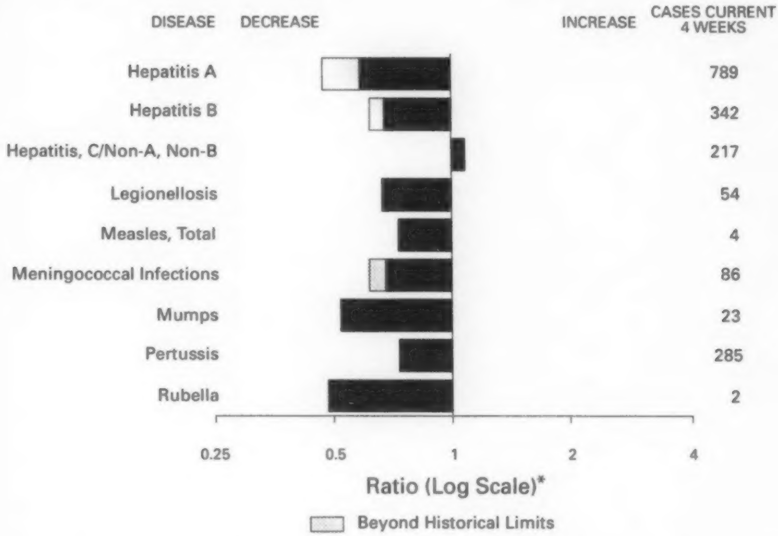
Certain malathion formulations are registered by EPA for aerial spraying over urban areas in mosquito-control programs. The use of malathion in these programs provides an important public health benefit by controlling mosquitoes that transmit human diseases such as encephalitis, dengue fever, and malaria. Spraying malathion/bait over urban populations for Medfly eradication has generated controversy in part because these applications are directed not at preventing human illness but at eradicating an agricultural pest. Federal law does not permit spraying malathion/bait over urban areas without an emergency EPA exemption**. To reduce the risk for illness among persons sensitive to the effects of malathion/bait applications, federal and state agricultural authorities are encouraged to pursue and enhance alternative methods for Medfly control. These methods include preventing Medfly importation into the United States, quickly detecting Medfly infestations (e.g. through

¶EPA classifies pesticides into one of four acute toxicity categories based on established criteria (40 CFR Part 156). Pesticides with the greatest toxicity are in toxicity category I and those with the least are in category IV.

**40 CFR Part 166.

(Continued on page 1027)

FIGURE I. Selected notifiable disease reports, comparison of provisional 4-week totals ending November 6, 1999, with historical data — United States



*Ratio of current 4-week total to mean of 15 4-week totals (from previous, comparable, and subsequent 4-week periods for the past 5 years). The point where the hatched area begins is based on the mean and two standard deviations of these 4-week totals.

TABLE I. Summary — provisional cases of selected notifiable diseases, United States, cumulative, week ending November 6, 1999 (44th Week)

		Cum. 1999		Cum. 1999
Anthrax		-	HIV infection, pediatric*§	121
Brucellosis*		42	Plague	5
Cholera		3	Poliomyelitis, paralytic	-
Congenital rubella syndrome		5	Psittacosis*	15
Cyclosporiasis*		49	Rabies, human	-
Diphtheria		2	Rocky Mountain spotted fever (RMSF)	465
Encephalitis:	California*	50	Streptococcal disease, invasive Group A	1,790
	eastern equine*	6	Streptococcal toxic-shock syndrome*	31
	St. Louis*	6	Syphilis, congenital¶	175
	western equine*	-	Tetanus	27
Ehrlichiosis	human granulocytic (HGE)*	128	Toxic-shock syndrome	98
	human monocytic (HME)*	35	Trichinosis	8
Hansen Disease*		87	Typhoid fever	261
Hantavirus pulmonary syndrome*†		18	Yellow fever	-
Hemolytic uremic syndrome, post-diarrheal*		88		

-:no reported cases
*Not notifiable in all states.
† Updated weekly from reports to the Division of Viral and Rickettsial Diseases, National Center for Infectious Diseases (NCID).
§ Updated monthly from reports to the Division of HIV/AIDS Prevention–Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention (NCHSTP), last update October 24, 1999.
¶ Updated from reports to the Division of STD Prevention, NCHSTP.

TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending November 6, 1999, and November 7, 1998 (44th Week)

Reporting Area	AIDS		Chlamydia		Cryptosporidiosis		*Escherichia coli* O157:H7* NETSS		*Escherichia coli* O157:H7* PHLIS	
	Cum. 1999†	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998
UNITED STATES	37,420	38,690	505,533	500,295	1,987	3,356	2,877	2,575	1,936	1,977
NEW ENGLAND	1,904	1,517	16,989	17,174	129	142	286	292	293	248
Maine	68	26	738	894	25	29	35	33	-	-
N.H.	38	25	809	836	17	14	28	42	29	42
Vt.	15	18	414	357	34	26	32	19	18	17
Mass.	1,231	766	7,808	7,099	49	66	164	135	171	141
R.I.	90	110	1,974	1,944	4	7	27	11	6	1
Conn.	462	572	5,246	6,044	-	-	U	52	69	47
MID. ATLANTIC	9,663	10,367	52,184	52,034	370	506	249	267	76	84
Upstate N.Y.	1,146	1,250	N	N	144	304	190	190	-	-
N.Y. City	5,100	5,843	21,963	22,404	114	180	9	12	15	12
N.J.	1,741	1,894	8,990	10,051	36	22	50	65	32	51
Pa.	1,676	1,380	21,231	19,579	76	N	N	N	29	21
E.N. CENTRAL	2,519	2,736	76,100	84,807	451	676	606	405	425	322
Ohio	403	567	19,151	22,939	56	68	199	108	168	62
Ind.	285	446	9,299	9,405	37	52	91	91	55	47
Ill.	1,201	1,037	29,105	22,783	60	80	205	104	81	74
Mich.	504	530	18,545	17,813	45	37	111	102	73	62
Wis.	126	156	U	11,867	253	439	N	N	48	77
W.N. CENTRAL	846	750	28,087	29,702	191	304	549	435	370	377
Minn.	161	146	5,758	5,999	71	125	219	183	158	197
Iowa	72	60	3,864	3,824	53	63	108	89	70	58
Mo.	408	363	9,298	10,640	27	25	51	44	57	60
N. Dak.	6	5	707	876	18	30	16	10	14	15
S. Dak.	13	15	1,337	1,325	7	20	44	30	59	34
Nebr.	61	60	2,897	2,384	14	35	90	47	-	-
Kans.	125	101	4,226	4,654	1	6	21	32	12	13
S. ATLANTIC	10,275	10,032	108,441	96,421	331	302	295	218	148	161
Del.	147	122	2,280	2,213	-	3	6	-	3	2
Md.	1,242	1,394	9,922	6,307	17	18	36	39	2	14
D.C.	496	750	N	N	8	21	-	1	U	U
Va.	689	771	12,367	11,306	21	20	68	N	52	51
W. Va.	61	70	1,204	2,056	3	1	10	9	8	9
N.C.	688	703	18,914	18,723	22	N	64	52	49	47
S.C.	847	638	10,284	14,264	-	-	19	11	14	11
Ga.	1,466	1,060	29,077	20,362	121	104	29	69	-	-
Fla.	4,639	4,524	24,393	21,190	139	135	63	37	20	27
E.S. CENTRAL	1,666	1,596	38,629	34,842	26	24	113	109	56	62
Ky.	236	248	6,396	5,450	6	10	43	33	-	-
Tenn.	643	590	11,791	11,645	6	8	43	49	36	40
Ala.	423	417	10,761	8,651	11	N	22	21	16	18
Miss.	364	341	9,681	9,096	3	6	5	6	4	4
W.S. CENTRAL	3,822	4,742	70,980	76,195	80	894	123	88	109	96
Ark.	158	177	5,075	3,257	1	6	13	11	8	10
La.	742	814	10,879	12,687	22	15	9	5	13	7
Okla.	113	254	6,790	8,217	10	N	28	15	24	8
Tex.	2,809	3,497	48,236	52,034	47	873	73	57	64	71
MOUNTAIN	1,469	1,359	26,692	27,565	87	119	288	335	167	235
Mont.	11	26	1,287	1,152	10	10	24	15	-	5
Idaho	21	27	1,428	1,695	7	17	56	38	20	24
Wyo.	10	3	653	599	1	2	14	53	14	55
Colo.	271	254	5,099	6,581	12	17	106	72	86	61
N. Mex.	78	188	3,151	3,114	38	46	11	18	5	19
Ariz.	745	550	10,697	9,820	12	18	30	43	19	26
Utah	129	114	1,808	1,823	N	N	32	72	21	21
Nev.	204	197	2,569	2,781	7	9	15	24	2	24
PACIFIC	5,256	5,591	87,431	81,555	322	389	368	426	292	392
Wash.	305	369	10,116	9,523	N	N	144	94	119	124
Oreg.	185	146	5,072	4,796	88	65	73	102	68	95
Calif.	4,673	4,915	68,196	63,468	234	321	141	223	94	159
Alaska	13	17	1,611	1,599	-	-	1	7	1	-
Hawaii	80	144	2,436	2,169	-	3	9	-	10	14
Guam	5	1	302	355	-	-	N	N	U	U
P.R.	1,094	1,498	U	U	-	N	5	5	U	U
V.I.	36	31	U	U	U	U	U	U	U	U
Amer. Samoa	-	-	U	U	U	U	U	U	U	U
C.N.M.I.	-	-	U	U	U	U	U	U	U	U

N: Not notifiable U: Unavailable -: no reported cases C.N.M.I.: Commonwealth of Northern Mariana Islands

*Individual cases may be reported through both the National Electronic Telecommunications System for Surveillance (NETSS) and the Public Health Laboratory Information System (PHLIS).

†Updated monthly from reports to the Division of HIV/AIDS Prevention–Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention, last update October 24, 1999.

TABLE II. (Cont'd.) Provisional cases of selected notifiable diseases, United States, weeks ending November 6, 1999, and November 7, 1998 (44th Week)

Reporting Area	Gonorrhea		Hepatitis C/NA,NB		Legionellosis		Lyme Disease	
	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998
UNITED STATES	282,710	298,684	2,868	2,816	778	1,107	11,143	14,034
NEW ENGLAND	5,214	5,132	59	55	70	76	3,245	4,327
Maine	42	57	2	-	3	1	41	73
N.H.	92	79	-	-	6	7	16	42
Vt.	41	33	6	5	13	7	20	11
Mass.	2,167	1,920	48	47	28	31	1,033	666
R.I.	496	327	3	3	9	19	450	571
Conn.	2,376	2,716	-	-	11	11	1,685	2,964
MID. ATLANTIC	33,170	32,371	116	188	165	273	6,303	7,743
Upstate N.Y.	5,751	6,135	81	97	53	86	3,390	3,567
N.Y. City	11,762	10,115	-	-	9	34	30	218
N.J.	5,408	6,775	-	U	18	15	905	1,701
Pa.	10,249	9,346	35	91	85	138	1,978	2,257
E.N. CENTRAL	55,411	58,589	1,377	595	218	365	105	709
Ohio	11,535	15,051	3	7	65	114	68	42
Ind.	5,136	5,557	1	5	36	62	19	34
Ill.	25,722	18,930	39	38	22	48	12	14
Mich.	13,018	13,659	743	412	59	76	1	12
Wis.	U	5,392	591	133	36	65	5	607
W.N. CENTRAL	11,211	14,561	260	36	42	60	205	196
Minn.	2,211	2,302	9	9	9	6	137	148
Iowa	1,027	1,306	-	8	11	9	19	24
Mo.	4,686	7,499	240	12	14	16	26	11
N. Dak.	71	72	-	-	1	-	1	-
S. Dak.	160	195	-	-	3	3	-	-
Nebr.	1,230	1,007	5	4	4	18	10	3
Kans.	1,826	2,180	6	3	-	8	12	10
S. ATLANTIC	81,311	80,563	181	92	113	124	1,010	790
Del.	1,415	1,291	1	-	11	12	51	63
Md.	8,575	8,187	38	13	26	31	716	563
D.C.	3,166	3,725	1	-	3	6	4	4
Va.	8,206	7,685	10	11	28	18	109	59
W. Va.	363	749	17	6	N	N	16	12
N.C.	16,786	16,192	33	19	14	11	66	50
S.C.	5,840	9,146	22	7	8	10	5	6
Ga.	19,795	17,234	1	9	1	8	-	5
Fla.	17,165	16,354	58	27	22	28	43	28
E.S. CENTRAL	31,009	33,698	213	251	36	59	71	98
Ky.	2,901	3,183	17	19	18	26	9	25
Tenn.	9,569	10,169	79	149	14	21	30	41
Ala.	9,691	11,131	1	4	4	5	19	19
Miss.	8,848	9,215	116	79	-	7	13	13
W.S. CENTRAL	39,702	46,691	290	484	23	30	43	19
Ark.	2,669	3,318	18	21	-	1	4	6
La.	8,653	10,860	102	95	2	4	-	4
Okla.	3,354	4,488	14	14	3	12	4	2
Tex.	25,026	28,025	156	354	18	13	35	7
MOUNTAIN	7,922	7,692	126	341	41	65	16	17
Mont.	45	37	5	7	-	2	-	-
Idaho	71	145	7	86	2	2	5	5
Wyo.	27	29	37	86	-	1	3	1
Colo.	2,032	1,744	20	27	11	15	-	-
N. Mex.	632	762	8	84	1	2	1	4
Ariz.	3,858	3,553	35	11	6	16	-	1
Utah	181	192	6	21	15	21	5	-
Nev.	1,076	1,230	8	19	6	6	2	6
PACIFIC	17,760	19,387	246	774	70	55	145	135
Wash.	1,787	1,686	16	21	13	12	10	7
Oreg.	734	689	17	18	N	N	11	20
Calif.	14,630	16,306	213	681	56	41	124	107
Alaska	260	265	-	-	1	1	-	1
Hawaii	349	441	-	54	-	1	N	N
Guam	39	61	1	1	-	2	-	1
P.R.	282	327	-	-	-	-	N	N
V.I.	U	U	U	U	U	U	U	U
Amer. Samoa	U	U	U	U	U	U	U	U
C.N.M.I.	U	U	U	U	U	U	U	U

N: Not notifiable U: Unavailable -: no reported cases

TABLE II. (Cont'd.) Provisional cases of selected notifiable diseases, United States, weeks ending November 6, 1999, and November 7, 1998 (44th Week)

Reporting Area	Malaria		Rabies, Animal		Salmonellosis*			
					NETSS		PHLIS	
	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998
UNITED STATES	1,106	1,265	5,181	6,412	31,605	36,258	24,551	29,849
NEW ENGLAND	58	55	766	1,281	1,427	2,162	1,813	2,046
Maine	3	5	150	208	122	150	90	58
N.H.	2	5	48	74	113	170	121	204
Vt.	4	1	86	59	83	123	73	97
Mass.	21	17	185	453	989	1,177	993	1,211
R.I.	4	9	84	85	120	127	147	34
Conn.	24	18	213	402	U	415	389	442
MID. ATLANTIC	257	376	983	1,401	3,721	5,793	3,244	5,200
Upstate N.Y.	64	83	701	974	1,146	1,405	900	1,238
N.Y. City	115	212	U	U	1,163	1,705	853	1,323
N.J.	43	51	155	195	508	1,283	535	1,218
Pa.	35	30	127	232	904	1,400	956	1,421
E.N. CENTRAL	127	131	141	119	4,643	5,536	2,986	4,234
Ohio	18	14	33	54	1,138	1,337	913	1,013
Ind.	18	10	12	11	454	589	355	464
Ill.	46	53	10	N	1,425	1,698	399	1,354
Mich.	37	43	83	35	858	1,022	841	944
Wis.	8	11	3	19	768	890	478	459
W.N. CENTRAL	63	85	630	631	1,983	2,022	1,952	2,074
Minn.	33	51	101	105	576	497	608	582
Iowa	13	7	147	136	237	338	195	265
Mo.	13	14	14	37	646	545	792	752
N. Dak.	-	2	127	122	41	56	48	67
S. Dak.	-	-	151	147	85	101	106	113
Nebr.	-	1	3	7	179	166	-	42
Kans.	4	10	87	77	219	319	203	253
S. ATLANTIC	302	260	1,852	2,100	7,496	7,319	4,599	5,397
Del.	1	3	37	43	123	70	144	108
Md.	84	76	349	404	775	811	827	794
D.C.	17	16	-	-	65	64	U	U
Va.	63	52	497	500	1,129	964	872	784
W. Va.	2	2	94	69	138	131	137	146
N.C.	26	25	371	517	1,158	1,058	1,173	1,242
S.C.	17	6	132	134	590	566	418	480
Ga.	21	33	204	261	1,258	1,442	651	1,342
Fla.	71	47	168	172	2,260	2,213	377	501
E.S. CENTRAL	21	31	229	247	1,645	2,002	924	1,404
Ky.	7	7	34	29	359	324	-	124
Tenn.	6	15	82	126	317	519	473	619
Ala.	7	6	112	90	536	608	374	520
Miss.	1	3	1	2	433	551	77	141
W.S. CENTRAL	16	34	89	28	3,335	4,163	2,838	2,838
Ark.	3	1	14	28	571	529	120	329
La.	10	14	-	-	334	619	472	718
Okla.	2	3	75	N	380	434	291	204
Tex.	1	16	-	-	2,050	2,581	1,955	1,587
MOUNTAIN	41	60	177	233	2,646	2,235	2,200	1,797
Mont.	4	1	54	51	53	72	1	43
Idaho	3	8	-	N	99	108	81	85
Wyo.	1	-	42	55	63	57	49	51
Colo.	16	18	1	42	633	478	644	453
N. Mex.	2	12	9	6	341	265	217	232
Ariz.	8	8	58	47	836	723	692	613
Utah	4	1	8	26	455	314	463	122
Nev.	3	12	5	6	166	218	53	198
PACIFIC	221	233	314	372	4,709	5,026	3,995	4,859
Wash.	25	17	-	-	577	438	670	577
Oreg.	19	15	1	7	382	269	452	290
Calif.	166	194	306	342	3,399	4,023	2,610	3,697
Alaska	1	2	7	23	51	53	15	32
Hawaii	10	5	-	-	300	243	248	263
Guam	-	2	-	-	24	34	U	U
P.R.	-	-	63	47	255	694	U	U
V.I.	U	U	U	U	U	U	U	U
Amer. Samoa	U	U	U	U	U	U	U	U
C.N.M.I.	U	U	U	U	U	U	U	U

N: Not notifiable U: Unavailable -: no reported cases

*Individual cases may be reported through both the National Electronic Telecommunications System for Surveillance (NETSS) and the Public Health Laboratory Information System (PHLIS).

TABLE II. (Cont'd.) Provisional cases of selected notifiable diseases, United States, weeks ending November 6, 1999, and November 7, 1998 (44th Week)

Reporting Area	Shigellosis*				Syphilis (Primary & Secondary)		Tuberculosis	
	NETSS		PHLIS					
	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999†	Cum. 1998†
UNITED STATES	13,368	18,442	6,167	10,449	5,709	6,105	11,715	14,211
NEW ENGLAND	642	378	638	331	50	65	353	378
Maine	5	12	-	-	-	1	16	11
N.H.	16	15	14	19	1	2	10	-
Vt.	6	6	4	1	3	4	1	4
Mass.	592	249	563	238	31	37	201	214
R.I.	23	34	9	13	2	1	35	49
Conn.	U	62	48	60	13	20	90	100
MID. ATLANTIC	806	2,115	398	1,565	218	272	2,118	2,474
Upstate N.Y.	246	533	45	188	24	35	266	325
N.Y. City	242	641	82	550	79	64	1,120	1,217
N.J.	195	611	121	583	48	85	442	520
Pa.	123	330	150	244	67	88	290	412
E.N. CENTRAL	2,424	2,506	1,121	1,342	1,326	890	1,106	1,407
Ohio	370	435	116	117	75	124	200	204
Ind.	280	143	90	36	592	170	82	131
Ill.	919	1,377	592	1,122	451	363	495	665
Mich.	388	236	255	4	208	176	246	316
Wis.	467	315	68	63	U	57	83	91
W.N. CENTRAL	993	916	617	537	103	115	409	404
Minn.	218	276	209	306	9	9	169	125
Iowa	51	63	44	43	9	2	39	40
Mo.	607	131	320	95	67	86	143	151
N. Dak.	2	8	2	3	-	-	6	8
S. Dak.	13	31	6	21	-	1	17	16
Nebr.	65	345	-	19	8	4	16	23
Kans.	37	62	36	50	10	13	19	41
S. ATLANTIC	2,090	3,670	397	1,139	1,743	2,241	2,448	2,611
Del.	12	34	8	28	8	20	12	32
Md.	141	186	49	63	305	589	230	265
D.C.	46	25	U	U	59	71	35	94
Va.	117	177	48	80	136	132	247	250
W. Va.	8	11	5	7	2	2	35	36
N.C.	185	264	79	155	400	636	348	365
S.C.	111	158	56	79	230	294	210	246
Ga.	204	957	37	225	343	248	521	438
Fla.	1,266	1,858	115	502	260	249	810	885
E.S. CENTRAL	927	1,080	450	832	967	1,060	745	1,003
Ky.	220	117	-	45	88	92	156	138
Tenn.	508	490	393	572	532	498	272	355
Ala.	106	423	47	208	190	247	261	323
Miss.	93	50	10	7	157	223	56	187
W.S. CENTRAL	2,312	3,713	1,806	1,169	818	915	1,253	2,112
Ark.	73	191	23	58	66	100	145	122
La.	118	294	99	255	200	363	U	246
Okla.	447	446	149	130	163	79	112	146
Tex.	1,674	2,782	1,535	726	389	373	996	1,598
MOUNTAIN	977	1,120	560	655	205	217	372	481
Mont.	7	8	-	3	1	-	10	18
Idaho	25	18	9	13	1	2	14	10
Wyo.	3	3	1	1	-	1	3	4
Colo.	169	186	123	143	2	10	U	56
N. Mex.	113	265	62	153	11	22	52	58
Ariz.	524	546	341	295	182	163	183	187
Utah	58	39	18	28	2	4	35	45
Nev.	78	55	6	19	6	15	75	103
PACIFIC	2,197	2,944	180	2,879	279	330	2,911	3,341
Wash.	101	191	79	163	63	27	151	227
Oreg.	78	172	74	138	9	4	86	119
Calif.	1,989	2,527	-	2,527	204	295	2,481	2,797
Alaska	3	8	2	5	1	1	48	46
Hawaii	26	46	25	46	2	3	145	152
Guam	8	34	U	U	1	1	11	78
P.R.	62	53	U	U	140	158	41	140
V.I.	U	U	U	U	U	U	U	U
Amer. Samoa	U	U	U	U	U	U	U	U
C.N.M.I.	U	U	U	U	U	U	U	U

N: Not notifiable U: Unavailable -: no reported cases

*Individual cases may be reported through both the National Electronic Telecommunications System for Surveillance (NETSS) and the Public Health Laboratory Information System (PHLIS).

†Cumulative reports of provisional tuberculosis cases for 1999 are unavailable ("U") for some areas using the Tuberculosis Information System (TIMS).

TABLE III. Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending November 6, 1999, and November 7, 1998 (44th Week)

Reporting Area	*H. influenzae*, invasive		Hepatitis (Viral), by type				Measles (Rubeola)					
			A		B		Indigenous		Imported*		Total	
	Cum. 1999†	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	1999	Cum. 1999	1999	Cum. 1999	Cum. 1999	Cum. 1998
UNITED STATES	981	919	14,458	19,074	5,414	8,169	-	54	-	23	77	84
NEW ENGLAND	82	63	242	246	85	186	-	6	-	5	11	3
Maine	7	3	11	17	1	4	-	-	-	-	-	-
N.H.	17	10	15	12	13	18	-	-	-	1	1	-
Vt.	5	8	18	15	3	8	-	-	-	-	-	1
Mass.	31	36	78	109	34	67	-	5	-	3	8	2
R.I.	5	5	21	15	34	63	-	-	-	-	-	-
Conn.	17	1	99	78	-	26	-	1	-	1	2	-
MID. ATLANTIC	154	147	836	1,487	528	1,056	-	-	-	2	2	14
Upstate N.Y.	74	50	235	309	161	203	-	-	-	2	2	2
N.Y. City	34	39	244	518	168	368	-	-	-	-	-	-
N.J.	45	50	112	309	41	183	-	-	-	-	-	8
Pa.	1	8	245	351	158	302	-	-	-	-	-	4
E.N. CENTRAL	150	157	2,421	3,071	563	1,233	-	1	-	2	3	15
Ohio	51	45	566	270	81	68	U	-	U	-	-	1
Ind.	22	39	100	132	36	97	-	1	-	1	2	3
Ill.	63	55	574	681	1	209	-	-	-	-	-	-
Mich.	13	11	1,123	1,813	431	394	-	-	-	1	1	10
Wis.	1	7	58	175	14	465	U	-	U	-	-	1
W.N. CENTRAL	84	83	750	1,228	313	351	-	2	-	-	2	-
Minn.	40	64	75	115	49	43	-	1	-	-	1	-
Iowa	9	2	123	388	34	51	-	-	-	-	-	-
Mo.	26	10	451	573	188	210	-	1	-	-	1	-
N. Dak.	1	-	2	3	-	4	-	-	-	-	-	-
S. Dak.	1	-	9	31	1	2	U	-	U	-	-	-
Nebr.	3	1	50	25	14	18	-	-	-	-	-	-
Kans.	4	6	40	93	27	23	U	-	U	-	-	-
S. ATLANTIC	214	162	1,740	1,668	1,038	853	-	10	-	5	15	8
Del.	-	-	2	3	1	3	U	-	U	-	-	1
Md.	55	50	316	359	145	120	-	-	-	-	-	1
D.C.	4	-	54	55	21	11	U	-	U	-	-	-
Va.	17	16	149	182	77	90	-	10	-	3	13	2
W. Va.	6	6	32	7	22	8	U	-	U	-	-	-
N.C.	31	23	140	110	204	195	-	-	-	-	-	-
S.C.	5	3	42	34	63	39	-	-	-	-	-	-
Ga.	55	39	423	549	155	127	-	-	-	-	-	2
Fla.	41	25	582	369	350	260	-	-	-	2	2	2
E.S. CENTRAL	52	53	339	352	347	435	-	2	-	-	2	2
Ky.	6	7	61	29	37	42	-	2	-	-	2	-
Tenn.	28	31	142	199	165	241	-	-	-	-	-	1
Ala.	15	13	49	66	76	67	-	-	-	-	-	1
Miss.	3	2	87	58	69	85	-	-	-	-	-	-
W.S. CENTRAL	45	48	3,481	3,419	773	1,813	-	8	-	4	12	-
Ark.	2	-	50	78	58	95	-	3	-	-	3	-
La.	7	20	73	92	77	145	U	-	U	-	-	-
Okla.	32	25	402	520	110	87	-	-	-	-	-	-
Tex.	4	3	2,956	2,729	528	1,486	-	5	-	4	9	-
MOUNTAIN	97	106	1,119	2,822	497	715	-	3	-	-	3	2
Mont.	3	-	17	89	17	5	U	-	U	-	-	-
Idaho	1	1	36	224	26	38	-	-	-	-	-	-
Wyo.	1	1	7	35	12	9	-	-	-	-	-	-
Colo.	11	21	197	281	82	93	-	-	-	-	-	-
N. Mex.	18	6	43	135	155	275	U	-	U	-	-	-
Ariz.	52	54	657	1,687	130	159	-	1	-	-	1	2
Utah	8	4	46	172	31	65	U	2	U	-	2	-
Nev.	3	19	116	199	44	71	U	-	U	-	-	-
PACIFIC	103	100	3,530	4,781	1,270	1,527	-	22	-	5	27	40
Wash.	5	8	286	884	60	95	-	-	-	-	-	1
Oreg.	38	38	218	385	81	169	U	9	U	-	9	-
Calif.	46	44	3,004	3,444	1,102	1,237	-	13	-	4	17	8
Alaska	6	3	9	16	14	13	-	-	-	-	-	31
Hawaii	8	7	13	52	13	13	-	-	-	1	1	-
Guam	-	-	2	1	2	2	U	1	U	-	1	-
P.R.	1	2	112	63	102	220	-	-	-	-	-	-
V.I.	U	U	U	U	U	U	U	U	U	U	U	U
Amer. Samoa	U	U	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	U	U	U	U	U	U	U	U	U	U	U	U

N: Not notifiable U: Unavailable -: no reported cases

*For imported measles, cases include only those resulting from importation from other countries.

†Of 187 cases among children aged <5 years, serotype was reported for 98 and of those, 26 were type b.

TABLE III. (Cont'd.) Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending November 6, 1999, and November 7, 1998 (44th Week)

Reporting Area	Meningococcal Disease		Mumps			Pertussis			Rubella		
	Cum. 1999	Cum. 1998	1999	Cum. 1999	Cum. 1998	1999	Cum. 1999	Cum. 1998	1999	Cum. 1999	Cum. 1998
UNITED STATES	2,020	2,263	6	296	577	57	4,718	5,584	1	227	345
NEW ENGLAND	100	103	-	8	8	8	558	888	-	7	38
Maine	5	6	-	-	-	-	-	5	-	-	-
N.H.	12	11	-	1	-	-	78	103	-	-	-
Vt.	5	5	-	1	-	3	60	69	-	-	-
Mass.	58	49	-	4	5	-	360	662	-	7	8
R.I.	5	7	-	2	1	-	33	9	-	-	1
Conn.	15	25	-	-	2	5	27	40	-	-	29
MID. ATLANTIC	185	242	-	30	184	32	780	560	-	22	146
Upstate N.Y.	58	65	-	10	6	32	645	291	-	18	114
N.Y. City	46	30	-	3	155	-	10	37	-	-	18
N.J.	44	55	-	-	6	-	12	24	-	1	13
Pa.	37	92	-	17	17	-	113	208	-	3	1
E.N. CENTRAL	347	348	-	34	74	4	415	725	-	2	-
Ohio	122	125	U	14	27	U	184	247	U	-	-
Ind.	58	63	-	4	7	1	63	149	-	1	-
Ill.	93	87	-	9	10	1	66	106	-	1	-
Mich.	42	42	-	7	27	2	54	59	-	-	-
Wis.	32	31	U	-	3	U	48	164	U	-	-
W.N. CENTRAL	223	195	-	13	31	1	335	511	1	124	39
Minn.	49	30	-	1	13	-	187	291	-	5	-
Iowa	40	38	-	7	10	1	49	66	-	29	-
Mo.	90	70	-	2	3	-	51	35	1	3	2
N. Dak.	3	5	-	-	2	-	4	3	-	-	-
S. Dak.	11	7	U	-	-	U	5	8	U	-	-
Nebr.	12	15	-	-	-	-	4	16	-	87	-
Kans.	18	30	U	3	3	U	35	92	U	-	37
S. ATLANTIC	356	374	1	47	45	2	359	279	-	36	18
Del.	8	2	U	-	-	U	5	5	U	-	-
Md.	51	27	1	6	-	1	98	55	-	1	1
D.C.	1	1	U	2	-	U	-	1	U	-	-
Va.	47	36	-	10	8	-	29	30	-	-	1
W. Va.	6	16	U	-	-	U	3	1	U	-	-
N.C.	40	53	-	8	11	-	86	91	-	35	13
S.C.	42	52	-	4	6	-	15	26	-	-	-
Ga.	58	86	-	4	1	1	38	24	-	-	-
Fla.	103	101	-	13	19	-	85	46	-	-	3
E.S. CENTRAL	125	177	1	13	15	-	72	112	-	1	2
Ky.	28	33	-	-	-	-	21	49	-	-	-
Tenn.	43	63	-	-	1	-	27	33	-	-	2
Ala.	32	47	1	10	8	-	21	24	-	1	-
Miss.	22	34	-	3	6	-	3	6	-	-	-
W.S. CENTRAL	166	269	-	33	55	1	157	333	-	15	87
Ark.	31	27	-	-	12	-	18	77	-	6	-
La.	34	52	U	3	7	U	3	9	U	-	-
Okla.	27	38	-	1	-	-	12	31	-	-	-
Tex.	74	152	-	29	36	1	124	216	-	9	87
MOUNTAIN	125	127	1	26	36	8	619	963	-	16	5
Mont.	2	4	U	-	-	U	2	9	U	-	-
Idaho	10	10	1	2	4	4	139	215	-	-	-
Wyo.	4	5	-	-	1	-	2	8	-	-	-
Colo.	32	23	-	5	6	4	183	243	-	1	-
N. Mex.	14	25	N	N	N	U	133	89	U	-	1
Ariz.	42	39	-	8	6	-	100	191	-	13	1
Utah	14	13	U	6	5	U	55	167	U	1	2
Nev.	7	8	U	5	14	U	5	41	U	1	1
PACIFIC	393	428	3	92	129	1	1,423	1,213	-	4	10
Wash.	61	58	-	2	10	1	594	284	-	-	5
Oreg.	69	74	N	N	N	U	47	85	U	-	-
Calif.	251	288	3	76	93	-	745	813	-	4	3
Alaska	5	3	-	2	2	-	4	14	-	-	-
Hawaii	7	5	-	12	24	-	33	17	-	-	2
Guam	2	2	U	1	5	U	1	1	U	-	-
P.R.	5	9	-	-	3	-	16	6	-	-	14
V.I.	U	U	U	U	U	U	U	U	U	U	U
Amer. Samoa	U	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	U	U	U	U	U	U	U	U	U	U	U

N: Not notifiable U: Unavailable -: no reported cases

TABLE IV. Deaths in 122 U.S. cities,* week ending November 6, 1999 (44th Week)

Reporting Area	All Causes, By Age (Years)						P&I[†] Total
	All Ages	>65	45-64	25-44	1-24	<1	
NEW ENGLAND	261	186	44	22	4	5	29
Boston, Mass.	U	U	U	U	U	U	U
Bridgeport, Conn.	U	U	U	U	U	U	U
Cambridge, Mass.	11	8	1	2	-	-	3
Fall River, Mass.	27	23	3	-	1	-	6
Hartford, Conn.	U	U	U	U	U	U	U
Lowell, Mass.	16	13	3	-	-	-	3
Lynn, Mass.	13	7	4	2	-	-	1
New Bedford, Mass.	23	16	3	3	1	-	1
New Haven, Conn.	46	25	11	8	1	1	3
Providence, R.I.	62	41	13	5	-	3	5
Somerville, Mass.	2	2	-	-	-	-	-
Springfield, Mass.	40	32	4	2	1	1	3
Waterbury, Conn.	21	19	2	-	-	-	4
Worcester, Mass.	U	U	U	U	U	U	U
MID. ATLANTIC	995	725	170	61	18	20	56
Albany, N.Y.	41	29	8	2	1	1	5
Allentown, Pa.	U	U	U	U	U	U	U
Buffalo, N.Y.	80	60	12	5	1	1	6
Camden, N.J.	20	14	4	1	1	-	-
Elizabeth, N.J.	13	11	-	2	-	-	-
Erie, Pa.	49	35	4	6	-	4	4
Jersey City, N.J.	54	38	10	6	-	-	-
New York City, N.Y.	U	U	U	U	U	U	U
Newark, N.J.	U	U	U	U	U	U	U
Paterson, N.J.	27	18	6	1	-	2	-
Philadelphia, Pa.	389	267	79	25	11	7	14
Pittsburgh, Pa.§	48	28	11	5	1	3	2
Reading, Pa.	31	29	2	-	-	-	5
Rochester, N.Y.	109	85	15	4	3	2	11
Schenectady, N.Y.	U	U	U	U	U	U	U
Scranton, Pa.	28	25	2	1	-	-	1
Syracuse, N.Y.	70	57	11	2	-	-	7
Trenton, N.J.	15	12	2	1	-	-	1
Utica, N.Y.	21	17	4	-	-	-	-
Yonkers, N.Y.	U	U	U	U	U	U	U
E.N. CENTRAL	1,910	1,322	363	144	42	37	131
Akron, Ohio	39	31	2	5	1	-	2
Canton, Ohio	36	29	4	2	-	1	3
Chicago, Ill.	362	206	83	47	13	11	36
Cincinnati, Ohio	65	42	15	3	1	4	2
Cleveland, Ohio	124	87	30	4	2	1	2
Columbus, Ohio	191	139	32	15	2	3	11
Dayton, Ohio	121	90	22	8	-	1	10
Detroit, Mich.	200	117	55	18	6	4	15
Evansville, Ind.	47	37	8	2	-	-	3
Fort Wayne, Ind.	53	42	9	1	1	-	7
Gary, Ind.	23	12	4	3	3	1	1
Grand Rapids, Mich.	43	37	5	-	1	-	3
Indianapolis, Ind.	143	98	25	12	4	4	10
Lansing, Mich.	26	18	7	1	-	-	2
Milwaukee, Wis.	112	89	14	8	-	1	-
Peoria, Ill.	45	34	6	2	1	2	5
Rockford, Ill.	65	52	8	3	2	-	5
South Bend, Ind.	59	40	11	3	1	4	3
Toledo, Ohio	92	70	15	5	2	-	8
Youngstown, Ohio	64	52	8	2	2	-	3
W.N. CENTRAL	446	323	72	29	9	13	31
Des Moines, Iowa	U	U	U	U	U	U	U
Duluth, Minn.	30	24	5	-	-	1	4
Kansas City, Kans.	35	21	7	5	1	1	3
Kansas City, Mo.	87	56	11	10	5	5	5
Lincoln, Nebr.	38	30	4	4	-	-	1
Minneapolis, Minn.	146	105	28	7	2	4	9
Omaha, Nebr.	U	U	U	U	U	U	U
St. Louis, Mo.	U	U	U	U	U	U	U
St. Paul, Minn.	58	51	6	1	-	-	6
Wichita, Kans.	52	36	11	2	1	2	3
S. ATLANTIC	777	494	170	68	31	13	51
Atlanta, Ga.	U	U	U	U	U	U	U
Baltimore, Md.	150	80	36	22	10	2	12
Charlotte, N.C.	83	51	22	5	4	1	7
Jacksonville, Fla.	116	73	29	7	4	3	4
Miami, Fla.	U	U	U	U	U	U	U
Norfolk, Va.	42	28	11	-	3	-	1
Richmond, Va.	63	33	19	9	-	2	5
Savannah, Ga.	50	39	7	1	2	1	3
St. Petersburg, Fla.	98	71	12	9	4	2	5
Tampa, Fla.	145	98	25	15	4	2	14
Washington, D.C.	U	U	U	U	U	U	U
Wilmington, Del.	30	21	9	-	-	-	-
E.S. CENTRAL	794	530	177	60	14	11	73
Birmingham, Ala.	173	114	43	10	5	1	17
Chattanooga, Tenn.	75	50	17	5	2	1	5
Knoxville, Tenn.	97	67	21	5	2	2	10
Lexington, Ky.	70	48	15	3	1	2	10
Memphis, Tenn.	196	134	37	20	2	3	18
Mobile, Ala.	62	41	13	7	-	1	1
Montgomery, Ala.	U	U	U	U	U	U	U
Nashville, Tenn.	121	76	31	10	2	1	12
W.S. CENTRAL	1,338	894	280	88	31	45	113
Austin, Tex.	70	48	15	5	1	1	5
Baton Rouge, La.	11	10	1	-	-	-	1
Corpus Christi, Tex.	60	46	10	2	2	-	10
Dallas, Tex.	184	111	47	12	5	9	13
El Paso, Tex.	76	54	15	1	4	2	7
Ft. Worth, Tex.	127	84	29	9	2	3	10
Houston, Tex.	336	203	79	29	10	15	34
Little Rock, Ark.	81	52	19	5	2	3	3
New Orleans, La.	U	U	U	U	U	U	U
San Antonio, Tex.	222	161	38	17	3	3	13
Shreveport, La.	49	35	5	5	1	3	5
Tulsa, Okla.	122	90	22	3	1	6	12
MOUNTAIN	807	544	172	58	19	13	62
Albuquerque, N.M.	107	74	18	10	3	2	6
Boise, Idaho	47	34	10	3	-	-	3
Colo. Springs, Colo.	65	41	16	5	1	2	7
Denver, Colo.	U	U	U	U	U	U	U
Las Vegas, Nev.	156	104	36	11	2	2	11
Ogden, Utah	U	U	U	U	U	U	U
Phoenix, Ariz.	168	101	40	16	7	4	13
Pueblo, Colo.	43	29	9	3	2	-	2
Salt Lake City, Utah	87	66	15	3	2	1	10
Tucson, Ariz.	134	95	28	7	2	2	10
PACIFIC	1,113	783	197	90	23	18	78
Berkeley, Calif.	U	U	U	U	U	U	U
Fresno, Calif.	111	82	17	7	5	-	11
Glendale, Calif.	U	U	U	U	U	U	U
Honolulu, Hawaii	70	46	10	9	1	4	7
Long Beach, Calif.	49	36	8	1	2	2	6
Los Angeles, Calif.	U	U	U	U	U	U	U
Pasadena, Calif.	21	19	2	-	-	-	5
Portland, Oreg.	U	U	U	U	U	U	U
Sacramento, Calif.	U	U	U	U	U	U	U
San Diego, Calif.	382	283	61	29	4	3	7
San Francisco, Calif.	U	U	U	U	U	U	U
San Jose, Calif.	151	107	21	14	4	5	16
Santa Cruz, Calif.	27	17	6	2	2	-	3
Seattle, Wash.	139	75	44	17	1	2	8
Spokane, Wash.	63	49	7	6	1	-	4
Tacoma, Wash.	100	69	21	5	3	2	11
TOTAL	8,441[¶]	5,801	1,645	620	191	175	624

U: Unavailable -: no reported cases

*Mortality data in this table are voluntarily reported from 122 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

[†]Pneumonia and influenza.

[§]Because of changes in reporting methods in this Pennsylvania city, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

[¶]Total includes unknown ages.

Pesticide-Related Illness — Continued

increased sentinel trapping densities), releasing sterile male Medflies to interrupt the reproductive cycle, and identifying and using safer eradication agents.

During aerial malathion applications for mosquito control and Medfly eradication, the public should be advised to stay indoors and, when appropriate, persons with exposure-related health concerns should seek medical attention. The public also should be provided with an opportunity to ask questions and receive timely responses about the malathion applications (i.e., through telephone hotlines and community meetings). When malathion/bait applications are used for Medfly eradication, additional precautions are recommended, including immediately washing any skin surfaces that come into contact with malathion/bait-contaminated surfaces; providing advance public notification of spray schedules; performing aerial malathion/bait applications when residents are usually indoors (e.g., at night); directing the homeless to shelters; advising highly sensitive persons to leave the area during spraying; and convening a health advisory committee, an action that has been shown to be useful for mitigating risk (*7*). Medfly Eradication Program workers should be trained in the safe handling of pesticides, and consideration should be given to measuring plasma and red blood cell cholinesterase in these workers before beginning exposure and periodically thereafter (*8*). Workers should wear the personal protection equipment (PPE) listed on the pesticide label. Supplementary PPE also may be indicated.

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Erratum: Vol. 48, No. 43

In the article, "Tobacco Use—United States, 1900–1999," on page 989, in the last line of the fourth full paragraph, reference (*15*) should be (*17*), and on page 990, in the first line of the second paragraph under Future Challenges, reference (*17*) should be (*18*).

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